CLAIMS:

1. A magnetoresistance effect device, comprising:

a first ferromagnetic layer;

a first nonmagnetic dielectric layer formed on the first ferromagnetic layer; and

a second ferromagnetic layer formed on the first nonmagnetic dielectric layer,

wherein one of the first and second ferromagnetic layers comprises a plane shape in which a center region is disposed between first and second end regions, and the center region has a width narrower than each width of the first and second end regions.

2. The magnetoresistance effect device according to claim 1, wherein the first nonmagnetic dielectric layer and the other of the first and second ferromagnetic layers has a plane shape aligned to the plane shape of the one of the first and second ferromagnetic layers.

3. The magnetoresistance effect device according to claim 1, wherein at least one of the first and the second ferromagnetic layers comprises a laminate film including a pair of ferromagnetic layers, and a nonmagnetic layer formed between the pair of ferromagnetic material layers.

4. The magnetoresistance effect device according to claim 1, further comprising:

a second nonmagnetic dielectric layer formed on the second ferromagnetic layer; and

a third ferromagnetic layer formed on the second nonmagnetic dielectric layer.

5. The magnetoresistance effect device according to claim 1, wherein the first and second end regions respectively comprise a base region and a extended region, the center region and two base regions of the first and second end regions substantially form a rectangular, and the two extended regions are added to the rectangular to be substantially aligned diagonally to each other.

6. The magnetoresistance effect device according to claim 5, wherein the rectangle has a shorter axis and a longer axis, the center region and two base regions are aligned to be substantially parallel to the longer axis, and each of the two extended regions are extended from the base region in a direction orthogonal to the longer axis.

7. The magnetoresistance effect device according to claim 5, wherein the plane shape comprises an S-shape.

8. The magnetoresistance effect device according to claim 5, wherein each of the two extended region has a substantially semicircular-plane shape.

9. The magnetoresistance effect device according to claim 1, wherein said one of the first and second ferromagnetic layers comprises a magnetization free layer in which a magnetization is free to rotate in an applied magnetic field.

10. The magnetoresistance effect device according to claim 9, wherein the other of the first and second ferromagnetic layers comprises a magnetization pinned layer in which a magnetization is fixed in the applied magnetic field.

11. The magnetoresistance effect device according to claim 1, wherein the plane shape is substantially rotationally symmetrical with a center of the plane as a pivot.

12. The magnetoresistance effect device according to claim 11, wherein said one of the first and second ferromagnetic layers has an easy magnetization axis and the plane shape is not substantially symmetrical with the easy magnetization axis.

13. The magnetoresistance effect device according to claim 1, wherein the widths of the first and second end regions are different from each other.

14. A magnetic random access memory, comprising a plurality of the magnetoresistance effect devices of claim 1.

15. A personal digital assistance, comprising a plurality of the magnetoresistance effect devices of claim 1.

16. A magnetic reproducing head, comprising the magnetoresistance effect device of claim 1.

17. A magnetic information reproducing apparatus, comprising the

magnetoresistance effect device of claim 1.

18. A method of manufacturing a magnetoresistance effect device, comprising:

forming a first ferromagnetic body, a nonmagnetic dielectric layer on the first ferromagnetic body, and a second ferromagnetic body on the nonmagnetic dielectric layer;

etching part of an external region of a predetermined ferromagnetic tunnel junction region using a first liner mask pattern which is traversing the predetermined ferromagnetic tunnel junction region; and

etching another part of the external region of the predetermined ferromagnetic tunnel junction region using a second liner mask pattern which is traversing the predetermined ferromagnetic tunnel junction region and intersecting with the first linear mask pattern.

19. The method according to claim 18, wherein the first and second linear mask patterns are substantially orthogonal to each other.

20. The method according to claim 18, further comprising:

forming a pair of extended regions using an electron beam, the pair of extended regions being positioned diagonal to each other.